CLAIMS

What is claimed is:

1. A method of obtaining a reference subcarrier in each of a plurality of video signal lines for demodulating a chrominance portion of each of said plurality of video signal lines into U and V components, said method comprising:

locking onto a first reference subcarrier of a first video signal line of said plurality of video signal lines;

demodulating said chrominance portion of said first video signal line into first U and V components using said first reference subcarrier; and

obtaining each of said reference subcarrier in each of subsequent said plurality of video signal lines by rotating said first reference subcarrier for a predetermined number of degrees.

2. The method of claim 1, wherein said predetermined number of degrees is 90 degrees.

3. The method of claim 1, wherein said predetermined number of degrees is 180 degrees.

4. The method of claim 1, wherein said locking uses a phased locked loop.

5. The method of claim 1, wherein said obtaining includes inversion, sin/cos swapping low pass filtering of said first reference subcarrier.

6. A decoder configured to obtain a reference subcarrier in each of a plurality of video signal lines for demodulating a chrominance portion of each of said plurality of video signal lines into U and V components, said decoder comprising:

a phase locked loop configured to lock onto a first reference subcarrier of a first video signal line of said plurality of video signal lines;

a demodulator configured to demodulate said chrominance portion of said first video signal line into first U and V components using said first reference subcarrier; and

wherein said decoder obtains each of said reference subcarrier in each of subsequent said plurality of video signal lines by rotating said first reference subcarrier for a predetermined number of degrees.

7. The decoder of claim 6, wherein said predetermined number of degrees is 90 degrees.

8. The decoder of claim 6, wherein said predetermined number of degrees is 180 degrees.

9. The decoder of claim 6, wherein said decoder obtains each of said reference subcarrier in each of subsequent said plurality of video signal lines through inversion, sin/cos swapping low pass filtering of said first reference subcarrier.

10. A method of controlling a comb filter for comb filtering a plurality of video signal lines to demodulate a chrominance portion of each of said plurality of video signal lines into U and V components, said method comprising:

determining a first reference subcarrier of a first video signal line of said plurality of video signal lines;

demodulating said chrominance portion of said first video signal line into first U and V components using said first reference subcarrier;

using said first U and V components to determine a number of degrees of rotation of said first reference subcarrier from a second reference subcarrier of a second video signal line previous to said first video signal line; and

disabling said comb filter if said number of degrees is different from a predetermined number of degrees.

11. The method of claim 10, wherein said predetermined number of degrees is 90 degrees.

12. The method of claim 10, wherein said predetermined number of degrees is 180 degrees.

13. The method of claim 10 further comprising: enabling said comb filter if said number of degrees is the same as a predetermined number of degrees.

14. A decoder comprising:

a comb filter configured to filter a plurality of video signal lines;

a subcarrier generator configured to determine a first reference subcarrier of a first video signal line of said plurality of video signal lines;

a demodulator configured to demodulate said chrominance portion of said first video signal line into first U and V components using said first reference subcarrier; and

wherein said decoder uses said first U and V components to determine a number of degrees of rotation of said first reference subcarrier from a second reference subcarrier of a second video signal line previous to said first video signal line, and said decoder disables said comb filter if said number of degrees is different from a predetermined number of degrees.

15. The decoder of claim 14, wherein said predetermined number of degrees is 90 degrees.

16. The decoder of claim 14, wherein said predetermined number of degrees is 180 degrees.

17. The decoder of claim 14, wherein said decoder enables said comb filter if said number of degrees is the same as a predetermined number of degrees.

18. A method of decoding a video signal including a first video signal line and a second video signal line using a luma comb filter and a chroma comb filter, said method comprising:

obtaining a first chroma data for a first video signal line using said chroma comb filter;

obtaining a second chroma data for a second video signal line using said chroma comb filter, wherein said first video signal line is adjacent to said second video signal line;

obtaining a first luma data for a first video signal line using said luma comb filter;

obtaining a second luma data for a second video signal line using said luma comb filter;

using said chroma comb filter and said luma comb filter in a complimentary mode if there is correlation between said first chroma data and said second chroma data and there is no correlation between said first luma data and said second luma data; and

using said chroma comb filter and said luma comb filter in a non-complimentary mode if there is correlation between said first chroma data and said second chroma data and there is correlation between said first luma data and said second luma data.

19. The method of claim 18 further comprising: disabling said chroma comb filter and said luma comb filter if there is no correlation between said first chroma data and said second chroma data and there is no correlation between said first luma data and said second luma data.

20. A method of SECAM bell filtering a video signal to separate a luma component from a chroma component of said video signal, said method comprising:

rotating said video signal down to baseband using a chroma demodulator to obtain a baseband signal;

low-pass filtering said baseband signal to generate a low-pass filtered baseband signal;

modulating said low-pass filtered baseband signal to generate a modulated low-pass filtered baseband signal; and

subtracting said modulated low-pass filtered baseband signal from said video signal to notch said chroma component from said luma component.

21. The method of claim 20 further comprising: applying a bell filter to said modulated low-pass filtered baseband signal.